

ABSTRACT OF THE DISCLOSURE

In a low-pass filter which is preferably used as a loop filter in a PLL or DLL, filter characteristics which are the same as those of a conventional low-pass filter are realized without causing collateral problems, such as an increase in the circuit area, the circuit complexity, or the resistance value, which may be caused due to size reduction of a capacitive element in the conventional low-pass filter. Thus, in a loop filter including a capacitive element and a resistive element which are connected in series, the first input terminal is provided at the side including the resistive element, and the second input terminal is provided at a connection point of the capacitive element and the resistive element. The first input terminal is supplied with the first electric current. On the other hand, the second electric current, which is a part of the first electric current supplied to the first input terminal, is extracted from the second input terminal, so that the electric current flowing into the capacitive element is smaller than the electric current flowing through the resistive element.